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ABSTRACT

A cross-age tutoring program--using a highly structured tutoring method, an administrative reporting system, and home based reinforcement--was implemented and evaluated in six Ontario, Canada, schools. The subjects were 50 students with reading scores at least six months below grade level. These students were placed either in an experimental group that received regular tutoring each week, or in a control group that received any other kind of service besides tutoring that the learning resource teacher might ordinarily provide. The pretests and posttests used were the word identification subtest of the Woodcock Reading Mastery Test, the Spache Diagnostic Reading Scales, and a measure of student reading attitudes. The results were somewhat ambiguous in that both experimental and control group subjects made similar gains in oral reading scores in both the Woodcock test and the Spache test. No change occurred in either group on any of the reading attitude measures. Although the results were ambiguous, the various training, monitoring, and reinforcement systems were implemented without serious difficulty, and the program appeared to be a useful tool for providing remedial instruction to elementary students having difficulty with reading. (RL)

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TUTORING: PUTTING IT ALL TOGETHER

L. M. Earl, R. G. Stennett, Ph.D. & M. Tomlinson

Research Report 80-11

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TUTORING: PUTTING IT ALL TOGETHER

L. M. Earl, R. G. Stennett, Ph.D. & M. Tomlinson

Educational Research Services
London Board of Education

During the last few years Educational Research Services, in conjunction with the Learning Resource System and several professors from the University of Western Ontario, has worked to develop and implement an effective in-school cross-age tutoring program (Stennett & Isaacs, 1976-1977; Trovato, 1977; Isaacs & Stennett, 1979 and 1979). These studies often yielded inconclusive or ambiguous results. Each year of involvement in this task, however, provided additional insights into the complexities of implementing such a program and also provided direction for streamlining and clarifying the tutoring process. Trovato (1977), employing grade 8 students as tutors and a highly structured tutoring and monitoring program, showed that tutored students did four times as well as a control group (8 months vs. 2 months growth) and a third group, which was tutored and also received ongoing reinforcement from their parents, did six times better than the controls (13 vs. 2 months growth). Mr. Trovato's study included intensive initial training of the Learning Resource Teachers (LRTs) and student tutors, as well as monitoring of every phase of the program through observation of tutoring sessions every two to three days to assess the adequacy of the tutoring.

Given these encouraging results, a study was undertaken to try to create the necessary mechanisms and procedures to replicate Trovato's results, without relying on outside resources to provide the training and monitoring (Isaacs & Stennett, 1979). This study involved the creation of an administrative reporting system whereby the tutor reported to the LRT, who reported to a *system monitor* with particular expertise and responsibility for the tutoring program. This *system monitor* reviewed the records and corrected problems as they arose, as well as summarizing all of the information from the various sites.

The present study is an attempt to incorporate all of the techniques developed over the preceding few years...a structured tutoring program, LRT and tutor training, an administrative reporting system, and home-based reinforcement...and replicate the results achieved by Mr. Trovato.

METHOD

In order to create a cadre of LRTs across the system who would be expert in the use of the tutoring program, the LRTs participating in this study were chosen from as many administrative areas as possible. Five of the six areas were represented. An LRT, who had previously participated in a tutoring program and who had been seconded for curriculum development to the English Department[1], was given the role of *system monitor*.

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[1]Mike Tomlinson

LRT Training

The LRTs were trained during October in three, 3-hour training sessions by the *system monitor* and two members of the Research Department. The trainers spent two sessions modelling the procedures for training of tutors and then allowing the LRTs to practice these procedures. The final session was dedicated to strategies for monitoring tutor adequacy, implementation of home-based reinforcement and the administrative reporting system. Periodic meetings were held with the LRTs during the course of the program to discuss problems and develop appropriate solutions.

Tutor Training

Each LRT trained his/her tutors during November, December and, in some cases, January, using the six training units which are described in the *Program Guidebook*[2]. In several cases, they trained two tutors for each student to be tutored (tutee) so that the tutors would not miss an inordinate amount of class time.

Tutee Selection and Testing

The initial recommendation of students for the program came to the LRT from the classroom teachers. The LRT tested every student who was recommended with the Woodcock Reading Master Test - Word Identification subtest (a sight vocabulary test) to establish an initial estimate of reading level. Any student whose score was not at least six months behind his expected grade level was automatically rejected for inclusion in the program. The remaining students were grouped into matched pairs and one number of each pair was randomly assigned to either the experimental (N=34) or the control (N=34) group. Once the groups were defined, especially trained supply teachers administered the following tests:

1. *SRA Starter Stories:* These stories are part of the SRA 1B Reading Lab and were used to determine the tutee's level of entry into the program.
2. *Spache Diagnostic Reading Scales:* This is a standardized reading test which yields two grade equivalent scores...an instructional level score, which indicates the students level of achievement in oral reading, and an independent level, which is an indicator of skill in silent reading comprehension.

All of the testing done at pre-test was reinforced testing. This means that for each item (or line, where appropriate) which the student read correctly, he received a coloured chip. At the end of the testing session, the student was able to spend the chips to buy items from the LRT (eg. erasers, pencil crayons, cards, stickers). This testing procedure was used because it is believed that a student's performance under reinforced testing probably represents a more accurate assessment of his achievement (Ayllon & Kelly, 1972; Edlund, 1972; Tuinman, et. al., 1972).

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[2]Bucher, B. and Trovato, J. *Peer Tutor Program Guidebook, 1980.*

Because the teachers in previous years had indicated that students in the tutoring program had a noticeable change in attitude, a group-administered attitude test called *How I Feel About School*, which contains an *Attitude Towards Reading* subscale, was administered to both groups.

When the tutoring program was completed, all students were re-tested by especially trained supply teachers with the Woodcock, Spache and *How I Feel About School* tests. Since the testing at this time was inadvertently done without reinforcement, half of the students were retested with the Woodcock and Spache tests using reinforced testing in an attempt to assess the impact the reinforcement procedure might have on the post-test measures.

Establishment of the Home-Based Reinforcement System

Each of the LRTs was responsible for contacting the parents and negotiating a suitable contract for home-based reinforcement, following the directions included in the *Program Guidebook*. Some of them chose to meet with the parents individually and others opted to see all of the parents at one time. After the initial contact, communication with the parents was usually by phone or a checklist completed by the parents.

Program Implementation and Monitoring

Tutoring began with the experimental students during January and February. The students in the control group received any other kind of service which the LRT might ordinarily provide. Tutoring sessions for the experimental group were scheduled for 20 minutes a day, at least four days each week.

The LRTs assessed the adequacy of tutor performance by observing the tutors and following the monitoring procedures outlined in the *Program Guidebook*. They used a modified version of the administrative reporting system developed during the previous year (Isaacs and Stennett, 1979) to communicate weekly with the *system monitor* who reviewed all of the information, summarized it in various ways, and reported back to the LRTs.

RESULTS

Testing

Table 1 gives the mean pre- and post-test equivalent scores for each group on the Woodcock word identification test and the instructional and independent components of the Spache test.

TABLE 1 Mean pre- and post-test grade equivalent scores for tutored and control groups on three reading subtests.

Group	Woodcock		Spache Diagnostic			
			Instructional		Independent	
	Pre	Post	Pre	Post	Pre	Post
Tutored	2.8	3.7	4.1	5.0	4.4	4.5
Control	2.9	3.6	4.1	4.7	4.2	4.7

Because of attrition in both groups, 25 pairs of students were available to be included in the analysis. A two-way Analysis of Variance test was applied to these data to determine the impact of the tutoring program. The students in both groups made significant gains over the five months on all three of the tests. Although both groups improved and the tutored group made slightly more gain than the controls, these differences were not statistically significant. It is interesting to note that the scores generated by these tests are quite different, the Spache giving consistently higher scores than the Woodcock.

No change occurred in either group on any of the subscales of the *How I Feel About School* test.

Reinforced vs. Non-reinforced Testing

Because the post-testing was completed, in error, without reinforcement, 25 students (13 experimental and 12 control) were retested with reinforced testing procedures. An independent t-test was performed on these data to discover whether or not reinforcement provided a significant contribution to the test scores. Although there was a modest trend towards reinforced testing yielding higher scores on the tests, none of the differences were statistically significant and there were no differences between the groups. When considered in light of possible practice effects, it seems reasonable to accept the results of the non-reinforced post-testing as an adequate indicator of the students' performance.

DISCUSSION

The results of this investigation are somewhat ambiguous. The students in the tutored group made gains in oral reading scores on both the Woodcock test and the Spache test (instructional level) of approximately 9 months. This is very similar to the amount of gain achieved by Mr. Trovato in the study which we sought to replicate. The ambiguity arises because, in this study, the control group made gains of about the same magnitude. In Mr. Trovato's study, and in others done previously by Educational Research Services, the average gain for the control group has been around three months.

In an attempt to understand this phenomenon, the LRTs were asked to provide brief descriptions of the kind of service which they provided to the students in the control group. These data show that the control group received either additional instruction as part of a small group with the LRT or a volunteer (36%), a modified tutoring program (28%), or no extra LRT help (36%). The students in the control group who were involved in some kind of additional instruction received approximately the same amount of additional time as did the experimental group.

This additional information still does not explain the facts that the control group did as well as the experimental group and that both groups did better than previous groups involved in both tutored and control groups.

Even though the differences between the groups are very modest and not statistically significant, the system of tutoring, training, reinforcement and program monitoring seems to be workable and reasonably efficient. Most importantly, it does seem to produce growth in skill development at a *faster than normal* rate (9 months growth in 4-5 months of school)...the paramount consideration for any remedial technique. Consequently, this tutoring procedure can be used by LRTs with some assurance of improvement in the reading performance of the students tutored.

SUMMARY

A cross-age tutoring program, utilizing a highly structured tutoring method, an administrative reporting system and home-based reinforcement was implemented in six schools. Although the results are ambiguous, the various systems for training, monitoring and reinforcement were implemented without serious difficulty and the program appears to be a useful tool for providing remedial instruction to students having difficulty with reading.

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